

What is claimed is:

Claims 1-20 (canceled)

21 (New): A method for drying or heat treating a web-formed material having a width, the method comprising:

transporting the web-formed material, in contact with a gas-permeable dryer screen, through a drying plant in a direction of transport;

establishing high and low-pressure sides of the web-formed material by blowing a hot process air against the web-formed material and drawing the process air through the web-formed material, to dry said material;

mixing water leaving the web-formed material with the process air;

discharging a first portion of the mixed water and process air as exhaust air and replacing the exhaust air with a corresponding portion of supply air with a low water content;

recirculating a second portion of the mixed water and process air;

generating a pressure drop in a zone disposed proximate to the high-pressure side of the web-formed material, the zone extending substantially the width of the web-formed material; and

distributing the process air in a region upstream of the pressure-drop zone with a distribution member, the distribution member

forming a first flow of process air having a width extending substantially across the width of the web-formed material and a length in the direction of transport of the web-formed material, the width of the first flow of process air being smaller than the length of the first flow of process air, the first flow of process air having a direction of flow substantially perpendicular to the surface of the web-formed material,

dividing the first flow of process air into a plurality of jets directed substantially in a plane defined by the direction of transport and the normal direction of the web-formed material, said jets being

distributed over substantially an angular region facing the web-formed material, and

mixing the jets with one another again into a second flow of process air, the second flow of process air being conducted through the pressure-drop zone and then against and through the web-formed material lying on the gas-permeable dryer screen.

22 (New): The method of claim 21 wherein dividing the first flow of process air includes directing substantially all of the jets such that the jet paths do not intersect one another.

23 (New): The method of claim 22 wherein the jets are substantially isotropically outwardly-directed.

24 (New): The method of claim 22 wherein the jets are section by section, directed in the same direction.

25 (New): The method of claim 21 wherein dividing the first flow of process air includes directing the jets such that the angular difference between two jets increases with the distance between the jets measured in the direction of transport of the web-formed material.

26 (New): The method of claim 21 wherein dividing the first flow of process air includes directing the jets such that the jets in a central section are antiparallel to a normal to the web-formed material and jets in any other sections exhibit deviating directions with a successively increasing angle to the jets in the central section.

27 (New): The method of claim 22 wherein the first flow of process air is divided such that a ratio of the total cross-section area of the jets to the total area is lower in a central portion, where the direction of the jets is

substantially perpendicular to the web-formed material, than at the sides, where the direction of the jets lies substantially in the plane of the web-formed material.

28 (New): The method of claim 22 wherein dividing the first flow of process air includes forming the jets with an substantially circular cross section.

29 (New): The method of claim 28 wherein the jets are directed a certain distance after the first flow has been divided.

30 (New): A method for drying or heat treating a web-formed material having a width, the method comprising:

transporting the web-formed material, in contact with a gas-permeable dryer screen, through a drying plant in a direction of transport, the drying plant being divided into a plurality of sections;

blowing a hot process air against the web-formed material and drawing the process air through the web-formed material, to dry said material;

mixing water leaving the web-formed material with the process air;

discharging a first portion of the mixed water and process air as exhaust air and replacing the exhaust air with a corresponding portion of supply air with a low water content; and

recirculating a second portion of the mixed water and process air, the process air being recirculated separately within each section of the drying plant.

31 (New): The method of claim 30 further comprising heating the recirculated process air by direct burning of a fuel in the recirculation flow.

32 (New): A device for drying or heat treating a web-formed material having a width and a surface, the device comprising:

a gas-permeable dryer screen transporting the web-formed material in a direction of transport;

at least one fan defining high and low-pressure sides of the web-formed material, the at least one fan blowing a hot process air against the web-formed material and drawing the process air through the web-formed material, to dry said web-formed material;

at least one distribution member located proximate to the at least one fan and distributing the process air;

a pressure-drop generating member disposed proximate to the high-pressure side of the web-formed material and extending substantially across the width of the web-formed material, the pressure-drop generating member comprising a planar perforated, sheet-formed element;

a chamber surrounding the at least one fan and extending substantially across the width of the web-formed material, the chamber having a limiting surface substantially parallel to the surface of the web-formed material, the limiting surface having an opening extending substantially across the width of the web-formed material, the opening having length in the direction of transport of the web-formed material and a width in a direction perpendicular to the direction of transport of the web-formed material, the length of the opening being smaller than the width of the opening; and

a distribution member, disposed exterior to the chamber and enclosing the opening, the distribution member comprising an arcuate perforated, sheet-formed element.

33 (New): The device of claim 32 wherein the arcuate perforated, sheet-formed element of the distribution member is at least partially shaped as part of an envelope surface of a straight cylinder.

34 (New): The device of claim 32 wherein the arcuate perforated, sheet-formed element of the distribution member is at least partially shaped as part of an envelope surface of a straight circular cylinder.

35 (New): The device of claim 32 wherein the arcuate perforated, sheet-formed element of the distribution member is at least partially shaped as part of an envelope surface of a straight, polygonal cylinder.

36 (New): The device of claim 32 characterized in that the arcuate perforated, sheet-formed element of the distribution member is at least partially shaped as part of an envelope surface of a straight, polygonal cylinder composed of substantially planar sub-elements.

37 (New): The device of claim 32 wherein the arcuate perforated, sheet-formed element of the distribution member is at least partially shaped as part of an envelope surface of a straight regular, polygonal cylinder.

38 (New): The device of claim 32 wherein the arcuate perforated, sheet-formed element of the distribution member is at least partially shaped as half an envelope surface of a straight regular, dodecagonal cylinder.

39 (New): The device of claim 32 wherein the degree of perforation, in the arcuate perforated sheet-formed element of the distribution member, is lower in a central portion than at the sides.

40 (New): The device of claim 32 wherein the perforation, in the arcuate perforated sheet-formed element of the distribution member, consists of substantially circular holes.

41 (New): The device of claim 40 wherein the circular holes are formed with a rounded inlet and terminate in a neck projecting into the direction of flow of the process air.

42 (New): The device of claim 34 wherein the arcuate perforated, sheet-formed element of the distribution member is at least partially shaped as half of an envelope surface of a straight circular cylinder.

43 (New): The device of claim 37 wherein the arcuate perforated, sheet-formed element of the distribution member is at least partially shaped as half of an envelope surface of a straight regular, polygonal cylinder.